Blizzard Bag #1

Due:

Name_____

8th grade math

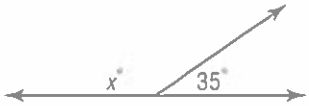
NAME _____ DATE _____ PERIOD ____

6-1 Study Guide and Intervention

Line and Angle Relationships

The relationship between pairs of angles can be used to find missing measures.

EXAMPLE 1 **Find the value of x in the figure at the right.**



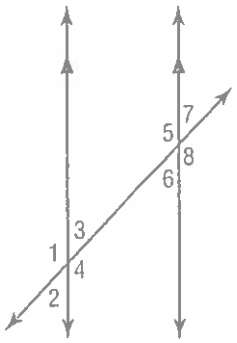
The two angles are supplementary, so their sum is 180°.

$x + 35 = 180$ Write an equation.

$x - 35 + 35 = 180 - 35$ Subtract 35 from each side.

$x = 145$ Simplify.

EXAMPLES **Use the figure at the right.**



2 **Find $m\angle 3$ if $m\angle 7 = 70°$.**

$\angle 3$ and $\angle 7$ are corresponding angles. Since corresponding angles are congruent, their measures are the same.

$m\angle 3 = m\angle 7$, so $m\angle 3 = 70°$.

3 **Find $m\angle 4$ if $m\angle 5 = 120°$.**

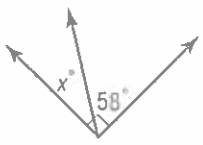
$\angle 4$ and $\angle 5$ are alternate interior angles. Since alternate interior angles are congruent, their measures are the same.

$m\angle 4 = m\angle 5$, so $m\angle 4 = 120°$.

EXERCISES

Find the value of x in each figure.

1.



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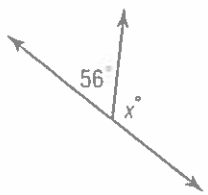
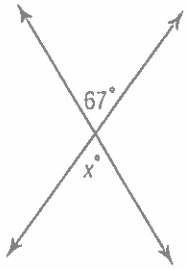
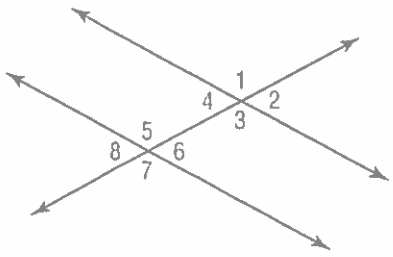


3.



For Exercises 4–7, use the figure at the right.



4. Find $m\angle 5$ if $m\angle 3 = 110°$.

5. Find $m\angle 2$ if $m\angle 6 = 75°$.

6. Find $m\angle 1$ if $m\angle 7 = 94°$.

7. Find $m\angle 8$ if $m\angle 4 = 68°$.

8. Find $m\angle 5$ if $m\angle 6 = 71°$.

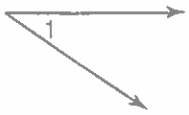
Lesson 6–1

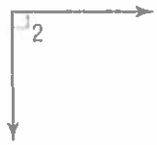
NAME _____ DATE _____ PERIOD ____

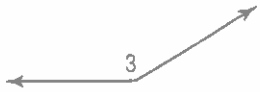
6-1 Practice: Skills

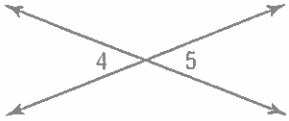
Line and Angle Relationships

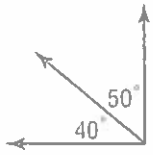
Classify each angle or angle pair using all names that apply.

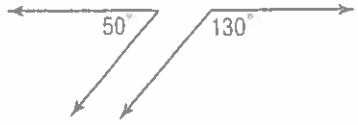
1. 

2. 

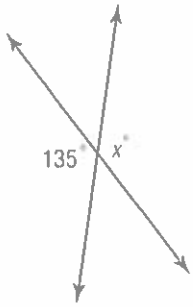
3. 

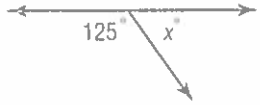
4. 

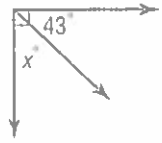
5. 

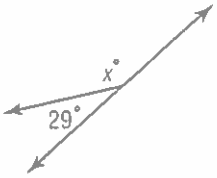
6. 

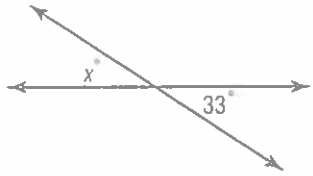
Find the value of x in each figure.

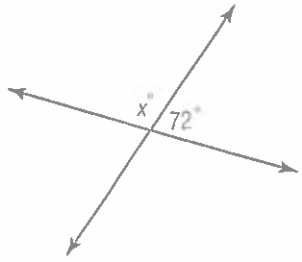
7. 

8. 

9. 

10. 

11. 

12. 

For Exercises 13–22, use the figure at the right.

13. Find $m\angle 5$ if $m\angle 1 = 127°$.

14. Find $m\angle 2$ if $m\angle 7 = 65°$.

15. Find $m\angle 3$ if $m\angle 6 = 29°$.

16. Find $m\angle 8$ if $m\angle 4 = 132°$.

17. Find $m\angle 5$ if $m\angle 8 = 106°$.

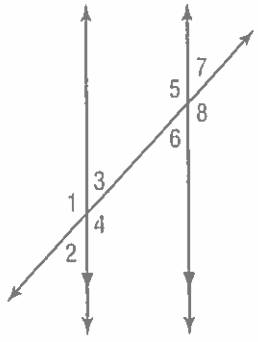
18. Find $m\angle 3$ if $m\angle 4 = 128°$.

19. Find $m\angle 4$ if $m\angle 5 = 151°$.

20. Find $m\angle 1$ if $m\angle 2 = 51°$.

21. Find $m\angle 6$ if $m\angle 7 = 81°$.

22. Find $m\angle 3$ if $m\angle 1 = 143°$.

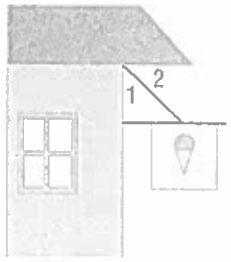


NAME _____ DATE _____ PERIOD ____

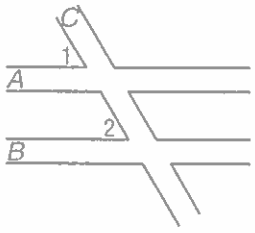
6-1 Practice: Word Problems

Line and Angle Relationships

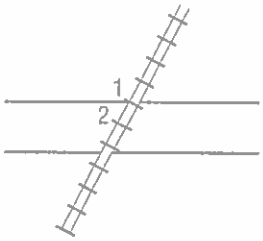
1. **SIGN** The support wire for a sign meets the wall and the overhang as shown below. If $m\angle 2 = 42°$, find $m\angle 1$. Explain your reasoning.



2. **AIRPORTS** The runways at a local airport are laid out as shown below. Runways A and B are parallel, and runway C cuts across A and B. If $m\angle 1 = 55°$, find $m\angle 2$. Explain your reasoning.

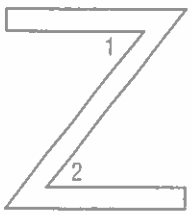


3. **RAILROADS** East of the town of Rockport, the railroad tracks intersect Highway 67 as shown below. If $m\angle 1 = 133°$, find $m\angle 2$. Explain your reasoning.

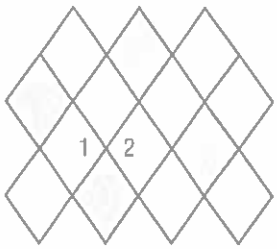


4. **CAMPING** Jonna and Elizabeth found a level campsite and pitched their tent as shown below. If $m\angle 1 = 120°$, find $m\angle 2$. Explain your reasoning.

5. **ALPHABET** The top and bottom segments of the letter Z are parallel as shown below. If $m\angle 1 = 43°$, find $m\angle 2$. Explain your reasoning.



6. **FLOORING** Garret is designing a floor with diamond-shaped tiles as shown below. If $m\angle 1 = 125°$, find $m\angle 2$. Explain your reasoning.



Lesson 6–1